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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,252	12/27/2000	Yukihisa Takeuchi	789_064	5799

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EXAMINER

TRA, TUYEN Q

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 03/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/749,252

Applicant(s)

TAKEUCHI ET AL.

Examiner

Tuyen Q Tra

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9. 6) ☐ Other:

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DETAILED ACTION

Oath/Declaration

1. The declaration filed 12/27/00 is acceptable.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d).

Drawings

3. The Drawings filed on 12/27/00 have been declared formal by the examiner.

Information Disclosure Statement

4. Receipts of Information Disclosure Statements(IDS) with copies of reference cited therein were received on 08/2/01. An initialized copy of each IDS is enclosed with this Office Action.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1, 2, 4, 6-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeuchi et al. (U.S. Pat. 6,249,370 B1).

- a) With respect to claim 1, Takeuchi et al. discloses a display device in Figure 1 and 38 comprising of an actuator substrate 22 having an actuator element 14, an optical waveguide plate

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418, a crosspiece 30 allowed to intervene between the optical waveguide plate 418 and the actuator substrate 22 for surrounding the actuator element 14, and a picture element assembly 18 (18a, 18b) join onto the actuator element 14, wherein the picture element assembly 18 is disposed closely to, or it makes contact with the optical waveguide plate 418 in a state of no load (col. 7, line 10-62, Abstract, Fig. 1 & 38).

b) With respect to claim 2, Takeuchi et al. further discloses that distance between the picture element assembly 18 and the optical waveguide plate 418 in the state of no load is not more than 30 % of a distance of separation between the picture element assembly 18 and the optical waveguide plate 418 in a driving state (col. 13, line 19-21, Abstract, Fig. 1 & 38).

c) With respect to claim 4, Takeuchi et al. discloses a display device in Figure 1 & 38 comprising of an actuator substrate 22 having an actuator element 14, an optical waveguide plate 418, a crosspiece 30 allowed to intervene between the optical waveguide plate 418 and the actuator substrate 22 for surrounding the actuator element 14, and a picture element assembly 18 (18a, 18b) join onto the actuator element 14, wherein the picture element assembly 18 is allowed to make pressed contact with the optical waveguide plate in a state of no load (col. 7, line 10-62).

7. With respect to claim 6-30, Takeuchi et al. teaches apparatus of display device and further with method (method by product) in Fig. 1 & 38 comprising of step of forming a picture element assembly precursor on an actuator element of an actuator substrate having the actuator element;

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a step of forming a crosspiece precursor for surrounding the actuator element on any one of the actuator substrate and an optical waveguide plate; a step of joining the substrate and the optical waveguide plate to one another by the aid of the crosspiece precursor and the picture element assembly precursor or a picture element assembly formed by hardening the picture element assembly precursor; a step of hardening the picture element assembly precursor to form the picture element assembly; and a step of hardening the crosspiece precursor to form a crosspiece, wherein: the picture element assembly is allowed to make pressed contact with the optical waveguide plate in accordance with shrinkage caused by hardening of the crosspiece precursor and further step of defining an upper surface, applying a voltage, an adhesive, removing any organic (see Fig.1 and 38).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al. (U.S. Pat. 6,249,370 B1), as applied to claims 1 & 4, in view of Takeuchi et al. (U.S. Patent No. 5,862,275 A).

Takeuchi et al. discloses a display device with an actuator element and optical waveguide plate. However, Takeuchi et al. does not implicitly disclose that the picture element assembly and the optical waveguide plate are allowed to make pressed contact with each other applying a

voltage having a polarity opposite to that of a voltage to be applied to the actuator element in order to separate the picture element assembly from the optical waveguide plate. Within the same field of endeavor, Takeuchi et al. ('275) teaches that the picture element assembly and the optical waveguide plate are allowed to make pressed contact with each other applying a voltage having a polarity opposite to that of a voltage to be applied to the actuator element in order to separate the picture element assembly from the optical waveguide plate (col. 37, line 7-13).

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the optical attenuation with picture element, actuator element and optical waveguide plate such as disclosed by Takeuchi et al. ('370), with the picture element assembly and the optical waveguide plate are allowed to make pressed contact with each other applying a voltage having a polarity opposite to that of a voltage to be applied to the actuator element in order to separate the picture element assembly from the optical waveguide plate such as discloses by Takeuchi et al. ('275), for purpose of controlling picture element.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (703) 306-5712. The examiner can normally be reached on Monday to Friday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (703) 308-4883. The fax number for this Group is (703) 308-7722.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Examiner: Tuyen Tra

Date: March 17, 2002



Hung Xuan Dang
Primary Examiner